Appendix D. Data Quality

Two major determinants of the quality of data collected in household surveys are the magnitude of missing responses and the accuracy of the responses that are provided. This appendix provides information on the nonresponse rates for selected net worth items in the Survey of Income and Program Participation and provides a comparison of the survey net worth estimates with independent benchmark data.

Nonresponse in this discussion refers to missing responses to specific questions or "items" on the questionnaire. Noninterviews or complete failure to obtain cooperation from any household member have not been considered in this examination of nonresponse rates. Adjustments to account for noninterview are made by proportionally increasing the survey weights of interviewed households. Missing responses to specific questions are assigned a value in the imputation phase of the data processing operation.

Nonresponse is an important factor in assessing the quality of survey data. Nonresponse occurs when respondents do not answer questions because of a lack of knowledge or a refusal to answer. The rates are calculated by dividing the number of missing responses by the total number of responses that should have been provided. Nonresponse rates for selected asset amount questions from 1988 are compared to rates for similar questions from 1984 and 1987 SIPP files and to nonresponse rates from the earlier Income Survey Development Program (ISDP), a research panel for SIPP. These results are found in table D-1. Data on assets and liabilities were collected in the fifth wave of ISDP (end of 1979). In general, the SIPP nonresponse rates show improvement over the nonresponse rates encountered in ISDP. The adoption of a callback procedure to attempt to collect missing asset amounts and a major emphasis during interviewer training on the need to obtain complete asset information were two factors which contributed to the reduction in the nonresponse rates. The results from the three different SIPP interviews (1984, 1987, and 1988) are very similar.

Nonresponses are assigned values prior to producing estimates from the survey data. The procedure used to assign or impute most responses for missing data for SIPP are of a type commonly referred to as a "hot deck" imputation method. This process assigns values reported in the survey by respondents to nonrespondents. The respondent for whom the value is taken is termed the "donor". Values from donors are assigned by controlling for demographic and economic data available for both donors and nonrespondents. For every asset and liability item, there was a common set of characteristics used in the imputation process. These included the age, race, sex, and years of schooling of the person (or householder), and total household income during the four month reference period. For selected items, additional characteristics were used in the imputation process. For example, the imputation of the current market value of own home used the common set of characteristics listed above plus the original purchase price of the home. Similarly, for most assets covered in the core section of the questionnaire, income was used as an additional characteristic in the imputation of current balances of market values.

A second important determinant of data quality is the accuracy of reported and imputed amounts. Response errors are the result of a variety of factors including random response error, misreporting or failure to report asset ownership, and misreporting of asset and liability values. The extent of response error is measured by comparing survey estimates with independently derived estimates.

Table D-1. **Nonresponse Rates for Asset Ownership**

Asset type	ISDP[1] (1979)	SIPP (1984)	SIPP (1987)	SIPP (1988)
Debt on stocks and mutual fund shares	87.3	41.1	48.2	57.6
Face value of U.S. savings bonds	35.8	24.9	26.0	24.6
Value of rental property	39.9	33.5	31.1	23.3
Value of own business	55.3	37.9	39.2	34.4
Debt on own business	50.4	28.8	30.9	29.5

[1]Source: Robert Pearl, Matilda Frankel, and Richard Williams, "The Effect of the Reliability of Net Worth Data From the 1979 ISDP Research Panel," Survey Research Laboratory, University of Illinois, May 1982.

Table D-2. **SIPP Asset and Liability Estimates Compared to Federal Reserve Board Balance Sheet Data for the Household Sector: 1988 and 1984**

(Data are in billions of dollars)

Category	1988			1984		
	FRB Balance Sheet	SIPP	Ratio of SIPP to FRB Balance Sheet	FRB Balance Sheet	SIPP	Ratio of SIPP to FRB Balance Sheet
A. Equity in owner- occupied housing	$3,042.1	$3,628.6	1.19	$2,316.3	$2,823.6	1.22
Gross value	5,180.6	5,235.0	1.01	3,606.4	3,958.2	1.10
Debt	2,138.5	1,606.4	.75	1,290.1	1,134.6	.88
B. Equity in motor vehicles	424.3	490.3	1.16	287.0	410.5	1.43
Gross value	708.9	741.0	1.05	459.6	558.8	1.22
Debt	284.6	250.7	.88	172.6	148.3	.86
C. Equity in noncorporate business	2,410.7	1,764.9	.73	2,235.1	1,680.2	.75
Rental property	(NA)	1,025.9	(NA)	(NA)	909.6	(NA)
Other business equity	(NA)	739.0	(NA)	(NA)	770.6	(NA)
D. Financial assets	5,753.5	3,813.2	.66	3,858.9	2,826.1	.74
1. Interest-earning assets[1]	4,348.5	2,432.5	.56	3,167.5	1,635.7	.52
2. Corporate equities[2]	2,171.4	1,114.2	.51	1,403.2	1,062.7	.76
3. Other financial assets[3]	176.6	266.5	1.51	128.2	127.8	1.00
4. Less: Financial assets held by nonprofit sector or in personal trusts	(943.0)	X	X	(840.0)	X	X
E. Installment and other consumer debt[4]	409.1	245.8	.60	379.9	241.5	.64
F. Net Worth (A+B+C+D-E)	11,221.5	9451.2	.84	8,122.9	7,498.8	.92

NA Separate estimates not available
X Not applicable
[1]Includes passbook savings accounts, money market deposit accounts, certificates of deposit, checking accounts, money market funds, U.S. Government securities, municipal or corporate bonds, savings bonds, IRA and KEOGH accounts, and other interest-earning assets.
[2]Includes equities in stocks, mutual fund shares, and incorporated self-employed businesses or professions.
[3]Includes mortgages held by sellers and other financial assets not otherwise specified.
[4]Excludes debt for automobile and mobile homes.

A comparison of SIPP aggregate asset amounts in 1984 and 1988 with estimates derived from the Flow of Funds data of the Federal Reserve Board (FRB) is shown in table D-2. The Flow of Funds Balance Sheet data provides estimates as of the end of the year and is shown in the first column for each year. There are several conceptual and coverage differences between SIPP and FRB Balance Sheet data. First, the household sector in the FRB Balance Sheet includes nonprofit institutions and private trusts which are not covered in SIPP. In order to make the source more comparable, a rough estimate of the financial assets held by the nonprofit sector and personal trusts was obtained from the Federal Reserve Board. The second difference is that the SIPP universe consists of the noninstitutional resident population. Excluded from the universe are Armed Forces personnel living in military barracks, citizens residing abroad, and institutionalized persons, such as correctional facility inmates and nursing home residents. The asset holdings of these groups are included in the FRB Balance Sheet estimates. A third limitation in this comparison is that the household sector of the FRB Balance Sheets is estimated as a residual after allocations are made to all other sectors (farm, nonfarm, noncorporate business, nonfinancial corporate business and private financial institutions). As a result, allocation errors can lead to inaccuracies in the household sector estimates, especially in assets where the amount held by households comprise a small percentage of the total. The differences between SIPP and FRB estimates may diminish over time as the FRB estimates are continually revised. For example, the FRB estimate for other financial assets for 1984 reported in 1986 was 160.4. By 1989 this had been revised to 128.2, almost exactly the SIPP estimate for 1984.

In 1988 SIPP values for equity in owner-occupied housing were 1.19 times the 1988 FRB Balance Sheet estimate, whereas they were 1.22 times that estimate in 1984. The ratio of SIPP to FRB values for equity in noncorporate business remained relatively constant (.75 to .73) from 1984 to 1988, as did the overall ratio for financial assets (.74 to .66) from 1984 to 1988.

To further compare the 1988 estimates with other independently derived estimates, mean and median estimates for home equity from the SIPP, American Housing Survey (AHS), and Survey of Consumer Finances data are shown in table D-3. Home equity is the asset representing the largest share of net worth. As in previous tables in this report, all means and medians represent 1988 dollars. The 1985 American

Housing Survey reports home ownership data at interview time, from August 1985 through December 1985. The 1983 Survey of Consumer Finances obtained equity information at the time of interview, that is, February through July of 1983. Though the time frames for the three surveys span from February, 1983 to April, 1988, the results for both means and medians are within 15 percent of one another. While SIPP imputes unreported values for home equity, AHS does not. This fact could account for some of the difference between AHS and SIPP values.

Table D-3. **Comparison of Mean and Median Home Equity from Selected Surveys (in 1988 dollars)**

Source	Number of households (in thousands)	Mean equity	Median equity
1988 SIPP	58,228	$62,246	$43,070
1987 American Housing Survey	58,164	58,518	38,402
1985 American Housing Survey	56,145	55,612	46,165
1983 Survey of Consumer Finances	50,351	66,686	49,018

Two final issues related to data quality are asset coverage and population coverage. The household net worth estimates presented in this report exclude equities in pension plans, the cash surrender value of life insurance policies, and the value of household furnishings such as furniture, antiques, art and jewelry. These were excluded because it is particularly difficult to obtain reliable data on these assets in a household survey. For households likely to hold these assets, the estimates in this report will underestimate more general definitions of net worth. The exclusion of pension plan equities is likely to be more important for older householders with substantial lifetime work experience.

The second related issue is population coverage. The distribution of net worth is known to be highly concentrated. Findings from SIPP show that the top two percent in 1984 and three percent in 1988 of the distribution held 27 percent of total net worth in both years and an even greater proportion of certain asset types. The SIPP did not make a special effort to measure the top of the distribution. When the distribution is so concentrated, the normal SIPP area sample frame, with few observations for high income households, has large variability in the statistics for these households.

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